

Claims

1. A process for producing 2'-deoxyguanosine, which comprises reacting one compound selected from the group consisting of guanosine, guanosine 5'-monophosphate, and 2-amino-6-substituted purine with 2'-deoxynucleoside in the presence of nucleoside deoxyribosyl transferase and a hydrolase.

2. A process for producing 2'-deoxyguanosine as described in claim 1, wherein the compound is guanosine and the hydrolase is a nucleosidase.

3. A process for producing 2'-deoxyguanosine as described in claim 2, wherein the nucleoside deoxyribosyl transferase is nucleoside deoxyribosyl transferase II; the nucleosidase is purine nucleosidase; and the 2'-deoxynucleoside is 2'-deoxypyrimidine nucleoside.

4. A process for producing 2'-deoxyguanosine as described in claim 2 or 3, wherein the 2'-deoxynucleoside is thymidine.

5. A process for producing 2'-deoxyguanosine as described in claim 1, wherein the compound is guanosine 5'-monophosphate and the hydrolase is a nucleosidase.

6. A process for producing 2'-deoxyguanosine as described in claim 5, wherein the nucleoside deoxyribosyl transferase is nucleoside deoxyribosyl transferase II; the nucleosidase is inosinate nucleosidase; and the 2'-deoxynucleoside is 2'-deoxypyrimidine nucleoside.

7. A process for producing 2'-deoxyguanosine as described in claim 5 or 6, wherein the 2'-deoxynucleoside is thymidine.

8. A process for producing 2'-deoxyguanosine as described in claim 1, wherein the compound is a 2-amino-6-substituted purine and the hydrolase is deaminase.

9. A process for producing 2'-deoxyguanosine as described in claim 8, wherein the nucleoside deoxyribosyl transferase is nucleoside deoxyribosyl transferase II; the deaminase is adenosine deaminase; and the 2'-deoxynucleoside is 2'-deoxypyrimidine nucleoside.

10. A process for producing 2'-deoxyguanosine as described in claim 8 or 9, wherein the 2-amino-6-substituted purine has a substituent which is hydrolyzable.

11. A process for producing 2'-deoxyguanosine as described in claim 8 or 9, wherein the 2-amino-6-substituted purine is a 2-amino-6-halogenopurine.

12. A process for producing 2'-deoxyguanosine as described in claim 11, wherein the 2-amino-6-halogenopurine is 2-amino-6-chloropurine.

13. A process for producing 2'-deoxyguanosine as described in claim 8 or 9, wherein the 2-amino-6-substituted purine is 2,6-diaminopurine.

14. A process for producing 2'-deoxyguanosine as described in claim 8 or 9, wherein the 2'-deoxynucleoside is thymidine.